

**§ 238.437**

(iii) Vertical: 4g.

(2) Fittings that can be expected to be impacted by a person during a collision, such as tables between facing seats, shall be designed for the mass of the fitting plus the mass of the number of occupants who are 95th-percentile adult males that could be expected to strike the fitting, when the floor of the passenger car decelerates with a triangular crash pulse having a peak of 8g and a duration of 250 milliseconds.

(e) The ultimate strength of the interior fittings and equipment in power car control cabs shall be sufficient to resist without failure loads due to the following individually applied accelerations acting on the mass of the fitting or equipment:

(1) Longitudinal: 12g;

(2) Lateral: 4g; and

(3) Vertical: 4g.

(f) To the extent possible, interior fittings, except seats, shall be recessed or flush-mounted. Corners and sharp edges shall be avoided or otherwise padded.

(g) Energy-absorbent material shall be used to pad surfaces likely to be impacted by occupants during collisions or derailments.

(h) Luggage stowage compartments shall be enclosed, and have an ultimate strength sufficient to resist loads due to the following individually applied accelerations acting on the mass of the luggage that the compartments are designed to accommodate:

(1) Longitudinal: 8g;

(2) Lateral: 4g; and

(3) Vertical: 4g.

(i) If, for purposes of showing compliance with the requirements of this section, the strength of a seat attachment is to be demonstrated through sled testing, the seat structure and seat attachment to the sled that are used in such testing must be representative of the actual seat structure in, and seat attachment to, the rail vehicle subject to the requirements of this section. If the attachment strength of any other interior fitting is to be demonstrated through sled testing, for purposes of showing compliance with the requirements of this section, such testing shall be conducted in a similar manner.

[64 FR 25660, May 12, 1999, as amended at 67 FR 19992, Apr. 23, 2002]

**49 CFR Ch. II (10–1–10 Edition)**

**§ 238.437 [Reserved]**

**§ 238.439 Doors.**

(a) Each passenger car shall have a minimum of two exterior side doors, each door providing a minimum clear opening with dimensions of 30 inches horizontally by 74 inches vertically.

NOTE: The Americans with Disabilities Act (ADA) Accessibility Specifications for Transportation Vehicles also contain requirements for doorway clearance (See 49 CFR part 38).

(b) Each passenger car shall be equipped with a manual override feature for each powered, exterior side door. Each manual override must be:

(1) Capable of releasing the door to permit it to be opened, without power, from both inside and outside the car;

(2) Located adjacent to the door which it controls; and

(3) Designed and maintained so that a person may readily access and operate the override device from both inside and outside the car without the use of any tool or other implement.

(c) The status of each powered, exterior side door in a passenger car shall be displayed to the crew in the operating cab. If door interlocks are used, the sensors used to detect train motion shall be nominally set to operate at 3 mph.

(d) Each powered, exterior side door in a passenger car shall be connected to an emergency back-up power system.

(e) A railroad may protect a manual override device used to open a powered, exterior door with a cover or a screen capable of removal without requiring the use of a tool or other implement.

(f) A passenger compartment end door (other than a door providing access to the exterior of the trainset) shall be equipped with a kick-out panel, pop-out window, or other similar means of egress in the event the door will not open, or shall be so designed as to pose a negligible probability of becoming inoperable in the event of car body distortion following a collision or derailment.

(g) Door exits shall be marked, and instructions provided for their use, as required by § 239.107(a) of this chapter.

[64 FR 25660, May 12, 1999, as amended at 67 FR 19993, Apr. 23, 2002]